THE MECHANICAL CORN PICKER IN OHIO

by

J. H. Sitterley

Department of Rural Economics
Ohio State University
and
Ohio Agricultural Experiment Station

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The Mechanical Corn Picker is not a new machine. Over seventy five years ago inventors were busy trying to build and perfect a machine to pick the corn from the standing stalks. The first machine for this purpose was invented by Father Quincy in 1850. Only a short time after the Quincy patent had been issued another one was given to William Watson. All of the early machines were designed to be pushed from the rear, and many different devices were employed for removing the ears from the stalks. The snapping roll type of picker was invented in 1874 and was thought by manufacturers to promise success. When the corn binder began to develop and came into use the interest in pickers abated. About 1902 attention was again turned to corn pickers and several machines were introduced for picking corn. Goodhue, McCormick and Deering were the first to develop practical field pickers. The pickers of twenty years ago were probably about as effective as they are to-day with the exception of source of power. Formerly all of the pickers were driven by a bull wheel, today the majority are driven by a power take-off from the tractor*.

The corn picker though available for the past 25 or 30 years was not used very much in Ohio until after the World War. The most noticeable increase in number of pickers in use in Ohio has taken place during the past four or five years. The rush period during corn harvest, the increasing effort to lower production costs, the scarcity and high wages of farm labor in some sections and the availability of tractor power has resulted in an ever growing interest in farm machinery.

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* U. S. D. A. Office of Experiment Station, Bulletin, No. 173, by C. J. Zentheo. Information also supplied by L. J. Baker, Jr., of "Farm Implement News"

In order to determine the place of corn pickers on Ohio farms sixty five farmers owning and operating corn pickers were interviewed in the fall of 1929. Information was obtained on the rate of operation, cost, and the problems of the mechanical corn picker. Records were secured on the operation of the picker for both the 1928 and 1929 corn harvests, and on machines that had been operated longer than two seasons the acreage picked annually previous to 1928. The study was largely confined to the operation of the one-row pickers although 14 records on two-row pickers were included. Of the 51 records on one-row machines 46 were on pickers that had been in operation two or more seasons. Eleven of the 14 two-row pickers were purchased in 1928, and the other three in 1929. No effort was made to visit all or to find the total number of mechanical pickers in operation on Ohio farms.

Location in Ohio

The use of corn pickers in Ohio is very largely confined to territories that follow the practice of harvesting the corn by husking from the standing stalks. Twenty six counties in Ohio harvested 25 to 50 per cent of the corn raised in 1927 by husking from the standing stalk. All but seven of these were located in the three western tiers of counties of the state. The other seven counties had large acreages of river bottom land and were scattered through the central and eastern part of the state. Over fifty per cent of the mechanical corn pickers are located in the western half of the state, although there are a few pickers to be found on some of the river bottom land in the eastern part of Ohio. The farms visited in this study were for the most part located in three areas, namely: Wood County and the adjoining counties in the northwest, the Scioto River Valley

in the south central, and the Miami River Valley in the southwestern part of Ohio.

Type and Cost of Corn Pickers

Corn pickers fall into two main types, one and two-row pickers. The one-row machines are by far the most common, the obvious reason being that they have been on the market much longer than the two-row pickers. The two-row machines appeared on the market in small numbers in the fall of 1928 and in increased numbers in 1929. The 51 one-row pickers included in this study can be divided into two groups on the basis of the source of power. Eighteen were wheel drive, 32 power take-off and one driven by an auxiliary motor mounted upon the frame of the picker. The 14 two-row pickers were all of the power take-off type. Over one half of the one-row power take-off machines were entirely separate units from the tractor, and the picker and tractor were hooked tandem when in operation. There were a few of the saddle-on power driven machines built on the tractor, thus operated as one unit. During the last few years the tendency has been toward an increased use of the power take-off type of picker.

The original cost of the corn pickers varies with the make, the year purchased and whether it is a power drive or wheel drive. The average first cost of the 51 one-row machines was $458.00 and for the 14 two-row machines $600. The 32 one-row power drive pickers average $468.00 and the 18 wheel drive one-row pickers average $442.00 or $26.00 per machine less.

Size and Type of Farms on Which Pickers Are Operated

The ownership of the corn picker in Ohio has been largely confined to the farmers who are operating farms that are larger than the average size for the state. The 51 farms on which the one-row pickers were operated averaged 369 acres in 1929 and the farms on which the two-row machines were operated averaged 507 acres per farm.

Acres Operated By 51 Farmers Owning One-Row Corn Pickers 1929

Acres Operated	Number
150 Acres or less	2
151 to 250	23
251 to 350	12
351 to 450	8
451 Acres and Over	6

In 1929 over two thirds of the total acreage operated by the owners of corn pickers was in cultivated crops. Approximately 33 per cent of the land was devoted to corn production. The farms operated by the owners of the one-row machines that had been used two or more seasons, averaged 314 acres per farm, of which 99 acres was in corn in 1928. The same group of operators in 1929 averaged 311 acres per farm of which 101 acres were devoted to corn production. One hundred ninety four acres of corn were raised per farm in 1928, and 184 acres in 1929 on farms operated by owners of two-row pickers.

The Distribution of Crops per Farm in 1929 For the 46 Farms On Which One-row Pickers were Used Two Seasons or More

Item	Acres
Area in Farm	311
Corn	101
Wheat	52
Oats	41
Barley	3
Soybeans	7
Alfalfa	8
Miscellaneous	3
Meadow, Pasture, & Waste	96

On farms visited in northwestern Ohio, corn followed by spring grain with sweet clover, and then back to corn the second year was the most usual rotation. Corn, spring grain, wheat and grass, was, also, a common rotation. Other farmers followed combinations of these two. Among the farmers operating pickers in the more central and southern parts of the state the cropping system of corn, spring grain, wheat and grass, was very common. Some farmers in the more fertile land and river bottoms, followed a corn, corn, wheat and grass rotation. Still others followed combinations of these two. With the exception of a few areas where winter wheat was sown in the standing corn in the fall; corn that was husked off the standing stalk was either followed with a spring sown grain or the land was put back in corn the next spring.

Seventy two per cent of the corn raised on farms operated by owners of one-row pickers in 1928 was harvested with a mechanical picker, 12 per cent was cut and shocked, 12 per cent was hand husked from the standing stalks, 3 per cent was hogged down and 1 per cent was put in silos. The percentage of corn harvested with mechanical pickers was some what higher on farms operated by owners of two-row pickers.

Acres Harvested Annually

The forty six one-row mechanical corn pickers in operation two or more seasons harvested 86.5 acres per picker in 1928. These 46 pickers had been in use at the time of the study an average of 4.5 years per picker. For the 4.5 year period these machines have averaged picking 81 acres of corn per year per picker. The smallest average annual use of any of the machines in the study was 22 acres per year for a period of 9 years. The largest average annual use for any picker in the study was 145 acres per year for a period of 11 years. For the year 1928 the smallest acreage picked was 21 acres

and the largest acreage picked by a one-row picker was 211 acres. An average of 301 acres of corn per machine was harvested in 1928 by the 11 owners of two-row pickers. The smallest acreage picked in 1928 by a two-row picker was 110 acres and the largest acreage was 800.

The Rate of Harvest

The acres of corn harvested per hour with a one-row picker varied from .44 of an acre per hour to 1.1 acres per hour, while the average rate for the 46 one-row pickers in 1928 was .79 acres. There are many factors that effect the rate of harvest. Some of these factors that can be readily measured are, the size of crew, the capacity of the picker (one or two-row) and the source of power (wheel drive or power take-off). However, there are other factors that influence the rate, the extent of which is more difficult to measure, as the condition of the corn, the condition of the ground, the yield, and the skill of the operator. The number of hours available for operating a corn picker each day was determined more by the limits of day light than any other factor. In 1928, the hours spent picking per day averaged 8.4 and in 1929, 8.25 hours.

The size of the crew varied from one to five men and one to three teams per outfit. One man operated the tractor and picker in most cases although there were a few who used one man on the tractor and one to operate the picker. One to three men, two being the most common and a corresponding number of wagons and teams were employed to haul and store the corn. If the corn wagon in the field was attached to the tractor it was often possible to decrease the number of men hauling, by one. The practice of pulling both the picker and wagon with one tractor tended to lessen the rate of travel in some cases and more so if the ground was very soft or sticky.

Rates of Harvesting by Different Kinds

Of Pickers in 1928

	One-row Bull-Wheel Drive	One-row Power Drive	Two-row Power Drive
Number of Man hours per Acre	3.65	3.30	2.45
Average Number of men in Crew	3	3	4
Number of Acres picked per day*	6.64	7.28	12.68
Number of Bushels Picked per Day**	365	400	697

One-row power driven pickers operated by three man crews picked .64 of an acre per day more than bull-wheel driven pickers operated by three men. The bull-wheel drive machines were more effected by soft and muddy ground than the power driven machines and sometimes were unable to operate because of poor traction, when power driven machines were working.

If the corn was down and tangled, the tendency was a slightly lower rate than when picking in standing corn. The condition of the stalks also had some influence on the speed. When the stalks were rotten, very dry or frozen they broke loose from the ground much more easily than when tough and sometimes resulted in choking the rolls. Frozen and frosty stalks often caused so much trouble in breaking and feeding through the rolls that it was necessary to wait till the frost melted or dried off.

The effect of soft, muddy or slippery ground, if the picker was able to operate, was to reduce the speed, and particularly so if a wheel driven picker was used. In some cases the problem of pulling the corn wagon was a factor when the ground was soft. Frozen ground presented the problem of rough ground and increased the strain on the picker.

* Length of day taken as 8.4 hours.
** An Average yield per acre of 55 bushels, as reported by the farmers was used.

The Rate of Harvesting by Different Size Crews with One-row Pickers in 1928

Item	Two-man Crew	Three-man Crew	Four or more Man Crew	Average
Number of Crews	9	32 (3)	5	46
Total Acres Picked	493	2804	650	3947
Acres Picked per Machine	52.5	87.6	130	88
Acres Picked per Day (1)	4.9	7.0	6.8	6.7
Bushels Per Day (2)	270	385	375	368

The acres of corn harvested per hour by two-row corn pickers varied from 1 to 2 acres while the average rate for the 11 two-row machines in 1928 was 1.5 acres. The rate of harvesting corn with a two-row picker was effected almost without exception by the same factors that effected the rate of one-row machines. In 1928 the 11 two-row pickers were supplied with power by a power take-off from the tractor. The size of the crew ranged from 2 to 5 men, the average being 4 men, the number of teams and wagons varied from 1 to 4. Both the number of men and teams varied with the yield and distance to storage.

The farmers supplying the information, at the time the study was made in the fall of 1929, were approximately one half through harvesting their corn. A few farmers had little or no corn picked while others had finished. The corn that was picked with the mechanical pickers at the time of the visit had been for the most part harvested before the weather became so unfavorable. Up to the time the harvest was delayed by unfavorable weather, the rate of picking for the 1929 season was approximately the same as in 1928 for the one-row pickers and slightly less for the two-rowmachines. The weather was so unfavorable during the regular season that it often was necessary to suspend harvest by any method.

(1) Length of day taken as 8.4 hours.
(2) An average yield per acre of 55 bushels, as reported by the farmers was used.
(3) Includes four machines operated by 2 man crew, with the picker and grain wagon pulled by the same tractor.

Consequently the rate of harvest when pickers were able to operate, was often very much reduced by soft or frozen ground and rotten and tangled stalks.

Costs of Operating a Corn Picker

The items of cost that enter into the operation of a corn picker fall into two main groups, operating costs and overhead costs. Operating costs as used in this study include man labor, horse labor, tractor charge, fuel, oil, and repairs. The principle factors making up the overhead costs are depreciation interest and taxes on the picker. The average operating cost for picking an acre of corn in 1928 was $3.07 for the 46 one-row pickers. There was a wide range in operating costs among the 46 one-row machines; the highest operating cost per acre was $5.60 and the lowest was $2.26. A uniform price or charge was used in determining the cost of man labor, horse labor, and power costs. Approximately 3.75 hours of man labor, 1.25 hours of tractor labor and two teams were required to harvest an acre of corn with a one-row corn picker.

The cost of man labor was determined on the basis of 30¢ per hour which was approximately $2.50 per day (8.4 hours, time spent picking per day on average). Horse labor costs were determined on the basis of 12¢ per hour. In arriving at power costs a flat charge of 75¢ per hour for the use of the tractor was applied to cover all costs except fuel and oil. A flat charge was made rather than a diff erent charge for each size tractor since three fourths of 65 farms included in the study used tractors of the two bottom plow rating to pull the picker.*

A uniform price for gasoline of 17 cents less 4 cents tax or 13 cents per gallon and 66 cents per gallon for motor oil was used as a basis for determining the cost of fuel and oil consumed. The fuel and oil charges were made

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* The cost of horse labor and tractor charge are based on the results of various farm cost and power studies.

on the amount reported used by each individual operator. The repair costs varied from nothing to $20.00 and averaged $6.08 per machine in 1928 for the 46 one-row pickers. The wide range in repair costs was largely due to the different ages of the pickers.

The total cost of harvesting corn with a mechanical picker is made up of operating costs and overhead costs, the proportion being approximately three-fourths operating cost and one fourth overhead costs. The overhead cost per acre varied from 28¢ to $2.63 while the average for the 46 one-row machine in 1928 was 78¢ per acre.

The annual depreciation cost depends entirely upon the number of years that the picker will give service. To say how many years corn pickers will give service is a difficult task. The average life of the 46 one-row pickers at the time of the study was 4.5 years, nine had been in use seven or more years and one picker had been in operation since 1915. Each individual operator was asked to estimate the number of years of service that he expected the picker to give. The estimates ranged from five to twenty years and the average for the group was ten years. In several cases the life as estimated by the farmers bore a close relationship to the amount of annual use. However, for the entire group there

Total Annual Cost for Harvesting Corn

With a One-row Picker 1928

Acres of Corn Harvested Per Picker	Number Corn Pickers	Cost Per Picker: Man Labor	Horse Labor	Tractor Charge	Fuel and Oil	Picker Re-Pairs	Misc. Ex-Pense	Interest Tax Depreciation	Total Cost
Less than 50 A	9	$56.46	$19.84	$40.65	$16.27	$2.44	$1.86	$65.52	$183.08
50 to 75 A.	16	70.33	35.35	62.80	24.54	11.11	1.94	60.91	267.52
75 to 125 A	13	106.42	45.63	95.73	38.21	7.72	3.66	70.58	367.29
125 Acres & over	8	197.20	91.29	136.34	57.46	5.10	2.21	91.63	581.40

was not sufficient relationship between the annual use and estimated life to determine depreciation on the basis of a given number of acres as the life of the picker. The care that the machine received, the conditions under which it was operated and the problem of obsolescence all were factors to be considered in estimating the life of the machine. In determining the depreciation cost, the life in termsof years as estimated by the farmer was used. The annual depreciation cost was found by dividing the estimated number of years of life in to the original cost of the picker.

Interest and taxes on the investment in the corn picker were charged at a rate of 6% on the first cost of the picker for the first year of use. For each succeeding year of use, the interest and taxes were charged at the same rate but on the value of the picker remaining after the previous years depreciation was deducted.

Of the items that make up the cost of operating a corn picker, man labor, horse labor, power, fuel and repairs increase in direct proportion to the number of acres harvested, providing the rate of harvest remain the same. However, as the rate of picking increases the costs per acre of the above items decrease. The remaining item, overhead, is unchanged by the rate of harvest but greatly effected by the annual acreage harvested and the life of the machine. As the annual acreage harvested with the picker increases, the per acre overhead cost decreases. For the group harvesting less than 50 acres per season with an average estimated life of 11.3 years, the per acre overhead cost was $1.86. For the group harvesting 125 acres or over the estimated life was 8.3 years and the per acre overhead cost was 54¢ or 70 per cent lower than the group harvesting less than 50 acres per season.

The Cost per Acre for Harvesting Corn With One-Row Pickers - 1928

Item	Acres of Corn Picked							
	Less than 50A.		50 to 75 A.		75 to 125A.		125 A. up	
	Quantity	Cost	Quantity	Cost	Quantity	Cost	Quantity	Cost
Number of Pickers	9		16		13		8	
Ave. Acres Picked	35.2		62.8		99		170	
Hours per Acre to Pick	1.54		1.34		1.28		1.07	
Man Labor Per A.	3.45	1.05	3.7	1.12	3.58	1.08	3.87	1.16
Horse Labor Per A.	4.69	.56	4.7	.56	3.84	.46	4.48	.54
Tractor Oil Per A.(qts)	0.41	.07	0.34	.06	0.37	.06	0.25	.04
Tractor Fuel Per A.(gal)	3.02	.39	2.58	.34	2.5	.32	2.28	.30
Tractor Power Per A.(hrs)	1.54	1.15	1.34	1.00	1.28	.97	1.07	.80
Picker Repairs Per A.		.07		.18		.08		.03
Misc. Cost per A.		.05		.03		.04		.02
Total Operating Cost Per A.		3.34		3.29		3.01		2.89
Depreciation Charge Per A.		1.29		.66		.47		.39
Interest and Tax Charge Per A.		.57		.32		.24		.15
Total Overhead Per A.		1.86		.98		.71		.54
Total Cost per Acre		5.20		4.27		3.72		3.43
Cost Per Bushel (55 Bu. Per A.)		.095		.078		.068		.062

The total cost per acre for picking in 1929 was not determined, as insufficient information was available at the time of the interview. The farmers were only half through with the harvest, consequently the total acreage that each picker harvested could not be obtained; although the rate and the amount of the various factors making up the cash costs were obtained on the acreage harvested up to the time of the visit. For the 1961 acres picked by one-row mechanical pickers at that time, the average operating cost was $3.16 per acre as compared with $3.07 in 1928. The depreciation interest and tax cost per acre could not be determined as the harvest had not been completed.

The average operating cost of picking for the 11 two-row corn pickers in 1928 was $1.81 per acre and on the acres picked at the time of the interview in 1929, $2.20. The depreciation interest and tax costs were not determined for either 1928 or 1929 as no satisfactory estimate of the life of the two-row picker was available because of the short period that they had been in operation. The operating costs were made up of the same items that composed the operating costs of the one-row picker with one exception and that being repairs. Practically all of the repairs on the two-row pickers were furnished without cost for the first year. The increase in operating costs in 1929 over 1928 was due to a reduction in the rate of harvesting. The reduction in rate in 1929 was largely the result of unfavorable harvest conditions.

Cost of Harvesting Corn by Hand from the Standing Stalks

To compare the mechanical picker method with hand husking method, the information on the hand method was obtained from the same farmers who used the mechanical pickers. The average rate of hand husking and cribbing per man, and the amount paid or the amount it would have been necessary to pay if men had been hired to husk was obtained. There was a wide variation in the amount of corn that men husked and cribbed per hour. The skill of the husker, the yield, the condition of the corn and the facilities for cribbing all effected the rate. The rate for hand husking and cribbing varied among the farmers reporting from 5.5 hours to 18 hours per acre. For the group as a whole the average was 9.8 hours per acre. The method and amount of payment varied in the different parts of the state and between farms. The majority of the farmers interviewed reported payment on a bushel basis, some paid for husking by the acre and others by the day or hour. The practice of supplying a team and wagon to the huskers varied with individual conditions and local practices. In some cases a wagon and team were supplied with each husker and in others, two or three men used the same wagon.

Cost Per Acre for Harvesting and Cribbing Corn by The Hand Method From the Standing Stalks 1928

Item	Custom Husking 1 man Per Team	Custom Husking 2 men Per Team*	Husking Labor 30¢ Per Hour 1 man Per Team	Husking Labor 30¢ Per Hour 2 men per team*
Bu. of Corn Per A.	55	55	55	55
Hrs. of Man Labor to Husk and Crib 1 A.	9.8	9.8	9.8	9.8
Hrs. of Horse Labor Per Acre	19.6	9.8	19.6	9.8
Custom rate Per Bu. to Husk and Crib	7.5¢	7.5¢	30¢ per hr.	30¢ per hr.
Cost of Man Labor Per A.	4.12	4.12	2.94	2.94
Cost of Horse Labor per A.	2.35	1.17	2.35	1.17
Total Cost to Husk and Crib One Acre	6.47	5.29	5.29	4.11
Cost Per Bushel (55 bu. per Acre)	.12	.096	.096	.075

Individual costs for man labor alone in 1928 varied from $2.50 to $7.00 per acre for hand husking and cribbing, the average cost was $4.12. To these costs, the cost of a team and wagon was added to arrive at the total cost per acre for the hand method.

The Hand Method and The Mechanical Method Compared

In 1928, 3.7 hours of man labor and 4.3 hours of horse labor were required to harvest and crib one acre of corn with a mechanical corn picker. A crew of three men and two teams and wagons was as large a crew as was needed to accomplish the task with the corn picker. Harvesting standing corn by the hand method required 9.8 hours of man labor, a team and wagon to husk and crib an acre.

* Assuming that the rate is uneffected by the number of men husking per wagon.

The average total cost of harvesting an acre with the mechanical picker was $3.85 compared with $6.47 for the hand method using one man and a team on a 7.5 cents per bushel basis for man labor. Comparing the two methods on the same wage rate basis (30 cents per hour) the cost of the hand method, using a man and team was $5.29 per acre compared with $3.85 for the mechanical picker.

A comparison of the two-row picker and the hand method of harvesting can not be made on a total cost basis as operating costs are all that are available on the two-row machine. The operating cost for harvesting with two-row pickers in 1928 was $1.81 per acre or approximately 40% less than the operating cost for the one-row pickers. However, in comparing two-row harvesting costs with the hand method the fact must be taken in to consideration that no overhead costs are included in the $1.81. On the basis of man labor approximately 2.5 hours per acre were required with a two-row picker and 9.8 hours by the hand method.

The advantage of one method over the other depends on the acreage to harvest and the availability of labor. The larger the acreage and the higher the labor cost the greater the advantage of the mechanical picker. In any case individual farm conditions are a factor to be considered in deciding on a method of harvesting.

Custom Work With Mechanical Pickers

Seventeen and one half per cent of the total acreage harvested by the 46 one-row pickers in 1928 was custom work. Nineteen of the 46 one-row operators did some custom work. The amount varied from 8 to 155 acres and the average was 36 acres per picker. Seven of the two-row pickers did some custom work in 1928, the amount varied from 10 to 680 acres and averaged 250 acres. Over 50 per cent of the work done by the two-row pickers was custom work. The rate and method of charge was fairly uniform. A few operators charged

by the bushel, but the majority by the acre, the amount ranging from $2.50 to $4.00 with the most common charge being $3.00 to $3.50 by the one-row operators, and $2.50 to $3.00 per acre by the two-row operators. In practically every case this charge included the tractor, picker and one man, the remainder of the crew and equipment being furnished by the farmer having the work done.

Harvesting Losses

There was considerable variation of opinion among the owners of pickers visited as to the extent of corn lost by a mechanical picker. Some farmers have gleaned after the picker and recovered amounts ranging from less than a bushel to over five bushels to the acre. Some of the farmers reported that the amount saved by gleaning either did not pay for the labor, or the losses were no greater than when harvested by hand. When the corn was down, greater losses were reported than in standing corn. The tendency was for losses to increase as the season progressed. This was largely due to the stalks becoming rotten which resulted in more stalks and ears being broken loose and lost in the harvesting process. An increase in losses was, also, reported when the stalks were frozen. Some farmers expressed an opinion that there was more loss when the corn was poor than when good because more small ears went through the rolls. The loss in form of shelled corn was reported either negligable or small, seldom in excess of a bushel to the acre. The wide variation in opinion regarding the amount of loss indicated that the skill of the individual operator in adjusting and operating the picker had much to do with the loss. In several cases hogs were turned in the fields after picking, in other cases the farmers gleaned after the picker. Where livestock can be turned in the field after picking the losses are negligable.

Advantages and Disadvantages of the Corn Picker

The corn picker owners interviewed were asked as to the advantages and disadvantages of the picker. The following are some of the statements given:

Advantages:

1. Reduces harvest labor problem.
2. Faster method of harvesting corn.
3. Easier work.
4. Lowers harvesting costs.
5. Get corn in crib earlier
6. Can handle more acres of corn.

Disadvantages:

1. More waste, ears and shell corn.
2. Wet weather.
3. Little or no fodder for feed.
4. Packs the ground.
5. Often does not remove all of the husks.
6. Large investment.
7. Not very satisfactory when ground and stalks are frozen.

Summary

1. The use of corn pickers in Ohio is very largely confined to the territories that follow the practice of harvesting the corn from the standing stalks.

2. On the farms visited in the study using one-row pickers, approximately 100 acres of corn was raised per farm each year.

3. On the farms visited in the study using two-row pickers, approximately 190 acres of corn was raised per farm each year.

4. The one-row pickers included in the study harvested 86.5 acres of corn per picker in 1928.

5. The two-row pickers included in the study harvested 301 acres of corn per picker in 1928.

6. With a one-row corn picker, a tractor and two teams, three men were able to pick 6.7 acres per day, in 1928.

7. With a two-row corn picker, a tractor and two of three teams, four men were able to pick 12.7 acres per day, in 1928.

8. The rate of hand husking from the standing stalk as reported by the farmers averaged 56 bushels per man and team per 10 hour day.

9. With a one-row picker, two teams and a tractor, three men picked 2.6 acres in the same length of time required by three hand huskers and three teams to husk an acre.

10. The two-row pickers included in the study required approximately one fourth as much man labor per acre in 1928 as the hand method.

11. The average total cost for harvesting corn with the one-row mechanical corn picker was $3.85 per acre or 7 cents per bushel in 1928.

12. The average total cost for harvesting corn by the hand method with custom labor was $6.47 per acre or 12 cents per bushel in 1928.

The present is a preliminary report of a study of the mechanical corn picker in Ohio, which is being carried on in cooperation with the Department of Agriculture Engineering.